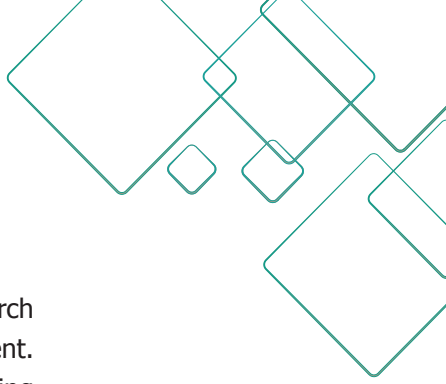




Research Relevance and Potential Impact

Cloud computing is an evolving field of research and development; it reveals different research challenges including for instance security, scalability, vendor lock in, and SLA management. Federated Clouds add more challenges induced by the dynamicity and continuously changing and volatile environment. Among these challenges involve developing mechanism to manage features related to the federation of Clouds through collaborative networking. SLA management in federation of Clouds remains a very relevant research initiative that addressed the dynamicity of relationships established between different Cloud services. Multi-level SLA specification, negotiation and monitoring are the core contributions that we propose in this research thesis to respond to a need for a flexible, scalable, and maintainable collaborative environment.

The adoption of game theory allows automated SLA negotiation and supports customers and providers to reach fair agreements while satisfying some QoS properties. Adaptive agent-based SLA monitoring detects efficiently causes of QoS violations and reacts with some corrective actions to maintain an uninterrupted service provisioning.

The result of this work will have an impact for researchers working on the area of Cloud computing, especially in federated Clouds environment. It will also inspire more investigation and extensions to cope with other aspects, such as SLA enforcement that were not considered in this work. The output of this research has been demonstrated by well-indexed publications that can contribute toward this direction.

Relevant Publications

- Falasi, Asma Al, M. Adel Serhani. "SLA Specification and Negotiation Model for a Network of Federated Clouds: CloudLend" IEEE International Conference on Cloud and Big Data Computing, July 2016.
- Falasi, Asma Al, M. Adel Serhani, and Younes Hamdouch. "A Game Theory based Automated SLA Negotiation Model for Confined Federated Clouds." CLOUDCOMP 2015, 6th International Conference on Cloud Computing, October 2015.
- Falasi, Asma Al, M. Adel Serhani, and Rachida Dssouli. «A Model for Multi-levels SLA Monitoring in Federated Cloud Environment.» Ubiquitous Intelligence and Computing, 2013 IEEE 10th International Conference on and 10th International Conference on Autonomic and Trusted Computing (UIC/ATC). IEEE, 2013.
- Falasi, Asma Al, M. Adel Serhani, and Said Elnaffar. «The Sky: A Social Approach to Clouds Federation.» Procedia Computer Science 19 (2013): 131138-.